Trans-Lake Washington Project
Washington State Department of Transportation
Sound Transit

Comments received on Draft Screening Criteria from Technical Steering Committee Members

> ----------
> From: Martin, Ann [SMTP:Ann.Martin@METROKC.GOV]
> Sent: Friday, August 18, 2000 5:16 PM
> To: Parker, Lorie/SEA [lparker1@ch2m.com]
> Subject: Draft Screening Criteria for the Trans-Lake Study Alternatives
> Analysis
>
> Here are some suggestions for the screening criteria:
>
> I agree with most of the comments made at the TAC meeting. The criteria
> are put forward as questions rather than statements. This tends to cloud
> the ranking. I suggest thinking about rewording. For example, "What is
> the ridership potential for each alternative?" does not correspond to
> "very likely to meet criterion," etc. Maybe you need a quantitative
> measure that reflects anticipated demand. For example, "Meets anticipated
> demand of 20,000 riders per hour" might be the criterion.
>
> "What are the size and characteristics of the markets served by this
> alternative?"
> This "criterion" does not fit the measures either. Perhaps, this should
> be "Meets anticipated market size and characteristics." This criterion
> could be answered "very likely," "likely," etc. Similar problems exist
> across all the screens. I think this will become evident when you try to
> apply the rating scales.
>
> On the environmental impacts review, I suggest you use the "avoids,
> minimizes or mitigates" and probably "results in unavoidable adverse
> impacts" as rating scales, rather than the standard scale. That is what
> you are really talking about, isn't it?
>
> Sorry I don't have more time to present additional comments, but I hope I
> have indicated a pattern of comments you can use in your revisions of the
> criteria.
>
> I will be gone for the next two weeks, but appreciate your consideration
> of these comments.
>
> Ann
>
> Principal Transportation Planner
> Regional Transportation Office
> King County Department of Transportation
> 201 South Jackson Street M.S. KSC-TR-0813
> Seattle, WA 98104-3856
> ann.martin@metrokc.gov
>
>

25 Aug 2000
To: TransLake Project Steering Committee
From: Len Newstrum

I don't now who put the second level screening criteria in the August 4 Technical Memorandum together, but they did a great job. Really. This "starting point" is 90% to the finish line.

I do have some comments: I am offering them ahead of the meeting (well, a little bit ahead) for your consideration. Sorry, I know you asked for our comments "soon", but I procrastinated. Actually, my biggest problem is not so much with content, but with structure: there seems to be confusion at times between the criteria to be used for screening and the data obtained from models, etc., that are used to develop the information needed for screening. I'll get to that last.

Referring to the Technical Memorandum:

Page 2. <u>Second Level Screening</u>, Phase 1 Modal Alternatives assessment. "Using the screening criteria the best of the modal alternatives will be selected for inclusion in the multi-modal alternatives."

> **There is a problem in screening modes individually. HCT's performance is not just in its ability to carry passengers. It has a two-fold benefit. First, it carries a significant number of people, at reasonably high average speeds, without consuming as much valuable right-of-way as other modes. (What those numbers are will vary significantly with the technology chosen.) Second, it reduces the demand on the surface roadway as HCT draws its ridership from the express buses, car-pools, and vanpools that make up the HOV lanes. It does this as the HOV lane users are demonstrably predisposed to transit. HCT on new right-of-way effectively adds a lane to the roadway (or at least the better part of a lane). How best to capitalize on this reduced HOV lane demand is an open question. At one extreme, the reduced demand HOV lanes could be used as HOT Lanes; at the other, they could be converted to GP lanes. One possibility is to allow additional GP vehicles into them (e.g., low emissions vehicles, as now encouraged by TEA21, Sec. 1209, "USE OF HOV LANES BY INHERENTLY LOW_EMISSION VEHICLES", as amended.)**
>
> **Performance comparisons between individual modes are not always the true story. Evaluation of the HCT mode in terms only of its ridership potential is misleading. You must simultaneously look at the additional GP capacity that results from HCT extracting its riders from the roadway plus the number of riders <u>attracted</u> from their SOVs. The latter, of course, is variable with the attractiveness of the technology and operating mode being considered.**

Page2, first four paragraphs, and page 6, first two paragraphs.

My interpretation of these paragraphs is that we are really addressing four screenings: first level, which screens out proposals that obviously do not meet purpose and need; second level step 1, which established criteria for choosing the best candidate modes for inclusion in multi-modal alternatives; second level step 2, which evaluates the multi-modal alternatives for inclusion in the EIS; and -- by implication -- the screening criteria to be used for comparing all considered alternatives and for recommending one alternative (i.e., criteria that establish the data to be included in the EIS).

I think we need to recognize that last step.

Page 6, paragraphs 2 and 3.

"The second level criteria will expand on the questions from the first level screening." "Alternatives carried forward from the 1st level modal screening will be evaluated and compared using the following criteria."

From this I would expect to see everything in the first level screening included in the second level screening criteria, but somewhat more rigorously. Comparison of the first and second level criteria, however, reveal some missing criteria. Specifically: The basic mobility performance criteria -- degree of mobility improvement (travel time), Safety, and Reliability -- do not seem to have been carried forward into the second level. (Exception; travel time is included as a subset of Reliability -- which seems strange.)

In addition, the criteria are entirely mode specific. To compare individual modes, the same criteria must be applied to all modes. To compare multi-modal alternatives (systems) the same criteria must be applied to all multi-modal alternatives.

Are we talking capital cost only? Total government-borne costs? Total societal cost?

This is very important. Capital cost is very important in determining how much tax money will be needed, but some modes require that taxes be used to buy vehicles, while in others the users bear the cost of the vehicles. To be fair, both should be used.

We must be very careful to keep these numbers tentative, as they tend to gain a life of their own. At this point, given the shallow definition of the alternatives, cost figures are very, very dangerous. For first level screening, they should only be invoked as criteria if we can all agree that the cost would be excessive no matter how a mode was implemented.

Page 6, HCT Alternatives, "System-wide LRT/BRT Boardings."

LRT and BRT should not be the only HCT considered. I-405 has one alternative that includes enhance HCT: we should do the same so that the two corridors come up with compatible HCT that can form the basis for a regional -- or at least sub-regional system.

Are "boardings" significant? Are we even sure that there will be any "added boardings on the Central Link LRT system"? Are we even sure that there will be such a system?

Page 6, "Improve Mobility" General

The mobility screening criteria should be portal-to-portal travel times and travel time reliability for people and goods during the AM and PM peak hours. Period. VMT and VHT are important inputs into certain environmental evaluations (air quality, etc), but are not in themselves data that are meaningful for evaluating mobility.

I don't understand why "Reliability" is a separate category, or why 1) "Exclusive/Non-Exclusive Right-of-way", 2)"Incident Management", or 3) "Dependency on Other TDM Strategies or Physical Improvements" are Screening Criteria: the first and last are characteristics of the alternatives that are manifested in the travel time reliability criteria. The second seems to be descriptive of one of the mode assumptions for roadway modes.

Breaking up "Improve Mobility" into "HCT Alternatives", "Highway Alternatives", and "TDM/Land Use Alternatives" may not be appropriate for the reasons given regarding page 2. By-mode information may be important in formulating the alternatives, but system performance, for people and goods, is fundamental. The modes do interact.

Page 8, "HCT. Travel Time" and "Highway Travel Time"

It is unclear as to whether the selected origin-destination (O-D) pairs will be the same for all modes. Unless they are the same, they cannot be used to compare the effectiveness of systems that use various mixes of HCT, SOVs and HOVs. The modes used to collect and distribute are major contributors. For HCT alternatives we need to assume the best feeder/distributor system is used – not just large buses running on fixed schedules.

Page 8, et al General

The point is made in multiple places that some of the low-income areas within the Trans-Lake Washington study area will be included in the O-D pairs. Presumably, this is to ensure that people that may not be able to travel by some modes will still have the ability to travel. This is good. However, there should be recognition that

the disabled and elderly have the same problem. On the eastside, the elderly are a significant group. Perhaps our many retirement homes – which tend to be concentrated in certain areas -- should be included and some consideration given to the disabled that live evenly distributed throughout our residential areas.

Page 11, Cost

This addresses government-borne capital and O&M cost only. Total societal cost is equally, if not more, important.

Capital cost is very important in determining how much tax money will be needed, but some modes require that taxes be used to buy vehicles, while in others the users bear the cost of the vehicles. To be fair, both criteria should be used.

We must be very careful to keep these numbers tentative, as they tend to gain a life of their own. At this point, given the very shallow definition of the alternatives, cost figures are very, very dangerous. For second level screening cost should only be invoked as criteria if we can all agree that the cost would be excessive no matter how a mode was implemented.

General:

I would expect Safety to be done in more depth than for first level screening. This question should be expanded to include risks to non-travelers. For instance, the Portland Light Rail system has had no casualties among its travelers. It has, however, killed 13 pedestrians so far. This is not atypical for surface rail. Elevated HCT, on the other hand, has never had a fatality, world wide, until this April when four people were killed on the Wuppertal (Germany) Monorail because of a contractor's negligence. Up to that point it had safely carried over a billion and a half passengers since its inception in 1906. Safety figures for all modes should include all risks to the public at large.

First level screening asked, "What is the ridership potential for each alternative?" I would expect this to be revisited in the second level screening. How is this going to be determined? What level of HCT "attractiveness" (i.e., what technology) will be assumed and what is the basis for the mode-change determination?

Sustainability is one of the primary criteria being used for the I-405 study, with the term meaning the ability to continue improving the transportation system after 2020. It is conspicuously absent.

<u>Conclusion:</u>

I would like to see a reorganization of the screening criteria into a more tiered structure that differentiates between the primary criteria used to establish effectiveness in meeting

the purpose and need statement and the data that is needed only to perform the necessary evaluations. The following is my version of the second level screening criteria. Those items presently identified as screening criteria that seem to be either data used in doing an evaluation or simply descriptive data -- not relating directly to the purpose and need statement -- are shown separately as "orphans." These orphans can certainly be determined, and in some cases must be determined in order to do a screening evaluation. {Example: VMT and VHT are necessary to do the air quality evaluation, but they serve no purpose as screening criteria. Is a low VMT good when evaluating TDM, but bad when evaluating a roadway alternative (zero VMT is complete gridlock)? Does it mean anything at all for transit?}

May I suggest, in the interest of speeding up the process, that you send this message -- along with your comments and any other responses to your call for inputs -- to all members of the steering committee as soon as practicable. I would also like to have the committee discuss the following suggested criteria at the next meeting, should they so desire. That implies view-foils and a projector.

Again, what I'm suggesting is not a criticism of the work done to date, it is primarily a restructuring and focussing.

Len Newstrum
Town of Yarrow Point

SECOND LEVEL SCREENING DERIVED FROM PURPOSE AND NEED

Purpose/ Need	Second Level Screening Criteria	Data provided
Mobility (Overall and by mode sequences)		
	Travel Time (AM and PM peak hour)	
	People	**Travel time tables for selected O-Ds**
	Goods	**Travel time tables for selected O-Ds**
	Reliability of Travel Time (AM and PM peak hour)	
	People	**Travel time variability in above tables**
	Goods	**Travel time variability in above tables**
	Safety	**Predicted deaths/injuries per year per million passenger miles**
Environment		
	Social	
	Mode shifts required	**Mode share percentages in 2020 compared to today**
	Availability	**Percent of population not served**
	Displacements/Disruptions	**Number, by type of land use**
	Neighborhood Quality of Life	**Qualitative**
	Section 4(f) and Section 106 Resources	**Qualitative**
	Noise and Vibration	**Qualitative**
	Visual	**Qualitative**
	Land Use	**Qualitative**

Purpose/ Need	Second Level Screening Criteria	Data provided
Environment (Continued)		
	Natural	
	Fish-bearing streams/Threatened and Endangered Species	**Qualitative**
	Critical Upland Habitat/ Threatened and Endangered Species	**Qualitative**
	Wetlands/Shorelines	**Est. of Direct effects by area and type**
	Water Resources (quantity and quality)	**Qualitative**
	Air Quality	**Qualitative, based on VMT and VHT**
Cost (by alternative, mode, and mode combinations)		
	Paid by taxes and fees	**Dollars per year, total and per rider**
	Paid by users only	**Dollars per year and dollars per passenger mile per year**
	Total cost to society (not including global effects), including environmental costs	**Dollars per year**
Sustainability (Post-2020 Growth Potential		
	Estimated ability to continue transportation system capacity growth	**Growth potential: percentage capacity remaining, total and my mode beyond 2020, by mode and by alternative.**
System Compatibility		
	Required changes to current plans and policies	**List**
	Supporting infrastructure inadequacies (arterials, etc)	**List and est. cost for jurisdictions to improve**
	System Continuity (with regional highways)	**Qualitative**

SECOND LEVEL SCREENING: ORPHANS?

Descriptive (Not Criteria in themselves)

Segment ridership	**Transit unique**
Transit boardings, by type	**Transit unique**
Impact on Central Link LRT	**Transit unique**
Transit ridership, by type	**Transit unique**
Trans-Lake transit trips, by bridge	**Transit unique**
Vehicle (auto) miles traveled	**Highway unique**
Vehicle (auto) hours Traveled	**Highway unique**
Traffic Volumes	**Highway unique**
Traffic Congestion	**Highway unique**
Person Throughput	**Highway unique**
Vehicle queue lengths	**Highway unique**
Exclusive/Non-exclusive Right of Way percentages	**Transit unique**
TDM measures included and their effectiveness, individually, and as a system	**Invariant between alternatives**
Incident management measures included and their effectiveness	**Highway unique**